

REMARKS

The present application was filed on December 6, 2000 with claims 1 through 22. Claims 1 through 22 are presently pending in the above-identified patent application.

In the Office Action, the Examiner rejected claims 1, 13, and 21 under 35 U.S.C. §102(a) as being anticipated by Pistriotto et al. (United States Patent Number 6,138,162) and rejected claims 7-11, 17-20, and 22 under 35 U.S.C. §102(a) as being anticipated by Gupta (United States Patent Number 6,212,565). The Examiner also rejected claims 2, 4, 5 and 14-16 under 35 U.S.C. §103(a) as being unpatentable over Pistriotto et al. in view of Gampper et al. (United States Patent Number 6,442,601), rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Pistriotto et al. in view of Smith et al. (United States Patent Number 6,341,311), and rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Gupta in view of Smith et al.

The present invention is directed to a method and apparatus for selecting a proxy server that stores a web resource from an array of proxies in a network. A disclosed proxy selector reduces the latency and bandwidth utilization required to obtain Web resources. A given proxy server is selected based on a proxy selection table generally maintained by each client. The proxy selection table redirects requests to a given proxy server in an array of proxy servers, based on the address of the requested resource and the recent history of client request patterns. The proxy selection table can encode the assignment of heavy file types and heavy domains to individual proxy servers. When a client requests a web resource, the proxy selection table is accessed to redirect the request to the appropriate proxy server. If the resource type is a heavy type, the request is redirected to one or more proxy servers responsible for heavy file types. If the resource is provided by a heavy domain, the request is redirected to the proxy server responsible for that domain. If the resource type is not a heavy type or provided by a heavy domain, a hash function is applied to only the domain part of the URL to identify a proxy server from which to obtain the desired resource.

Independent Claims 1, 7, 13, 17, 21 and 22

Independent claims 1, 13, and 21 were rejected under 35 U.S.C. §102(a) as being anticipated by Pistriotto and independent claims 7, 17, and 22 were rejected under 35 U.S.C. §102(a) as being anticipated by Gupta.

Regarding claims 1, 13, and 21, the Examiner asserts that Pistriotto teaches redirecting said web resource request (GET) to a proxy server (agent) associated with file type (col. 7, lines 11-14; col. 7, line 64, to col. 8, line 7; FIG. 5B). The Examiner asserts that the “category ID identifies the file type.”

5 Applicants note that the term “file type” is well understood in the art to refer to the type of data in the file (e.g., text, image, or video) and the format of the file (e.g., jpeg, gif, and html). Pistriotto teaches that the category ID refers to a particular “*type of information*.” (See, Abstract.) As is shown in FIGS. 3A and 3B, the category ID refers to the type of information, e.g., weather maps or sports news summary, but does *not* indicate the type of data in the file or the format of the
10 file. Independent claims 1, 13, and 21 require redirecting “said web resource request to a proxy server associated with said *file type*.”

Thus, Pistriotto does not disclose or suggest redirecting said web resource request to a proxy server associated with said file type, as required by independent claims 1, 13, and 21.

Regarding claims 7, 17, and 22, the Examiner, in the previous Office Action,
15 acknowledged that Gupta does not show selection of a proxy server according to traffic volume, but asserted that this feature is well known and would have been an obvious modification to the system shown by Gupta as evidenced by “Hierarchical Placement and Network Design Problems” by Guha. The Examiner now asserts that Gupta shows determining if said web resource request is served by a domain having a traffic volume that exceeds a predefined threshold (i.e. already has a traffic volume
20 of at least one; col. 6, lines 53-60; col. 8, lines 2-34; col. 9, lines 21-38).

Contrary to the Examiner’s latter assertion, Applicants maintain that Gupta does *not* teach determining if said web resource request is served by a domain having a *traffic volume* that exceeds a predefined threshold, since this would require a comparison of the traffic volume and a threshold. Gupta does not disclose or suggest that a comparison of the traffic volume and a threshold
25 occurs either inherently or explicitly. In addition, while the existence of an established persistent connection to the domain (as relied upon by the Examiner) may suggest that the traffic volume is (*or was*) at least one, a person of ordinary skill in the art would *not* view the existence of a persistent connection as an indicator of the volume of traffic.

Independent claims 7, 17, and 22, require determining if said web resource request is served by a domain having a *traffic volume* that exceeds a predefined threshold; and redirecting said web resource request to a proxy server associated with said domain.

Thus, Gupta does not disclose or suggest determining if said web resource request is served by a domain having a traffic volume that exceeds a predefined threshold; and redirecting said web resource request to a proxy server associated with said domain, as required by independent claims 7, 17, and 22.

Additional Cited References

Gampper et al. were also cited by the Examiner for disclosing a proxy cache system for saving files of predetermined minimum size and greater into secondary storage in the cache (col. 6, lines 31-59). Gampper et al. is directed to a system, method, and program for caching files retrieved from a server over a network. Gampper does not address the issue of redirecting web requests to proxy servers.

Thus, Gampper et al. do not disclose or suggest redirecting said web resource request to a proxy server associated with said file type, as required by independent claims 1, 13, and 21 and do not disclose or suggest determining if said web resource request is served by a domain having a traffic volume that exceeds a predefined threshold; and redirecting said web resource request to a proxy server associated with said domain, as required by independent claims 7, 17, and 22.

Smith was also cited by the Examiner for disclosing the access requests in a distributed cache and the addition of a new proxy server into the network (FIG. 11; col. 18, lines 49-53). Smith does not address the issue of considering file type when redirecting web requests to a proxy server. In addition, although Smith considers load factor to assign some proxy servers proportionately more URL data objects, the load factor is “incorporated in the creation of the combined hash values” (col. 5, lines 25-28) and is thus performed *prior to receiving the web resource request*.

Thus, Smith does not disclose or suggest redirecting said web resource request to a proxy server associated with said file type, as required by independent claims 1, 13, and 21 and does not disclose or suggest determining if said web resource request is served by a domain having a

traffic volume that exceeds a predefined threshold; and redirecting said web resource request to a proxy server associated with said domain, as required by independent claims 7, 17, and 22.

Dependent Claims 2-6, 8-12, 14-16 and 18-20

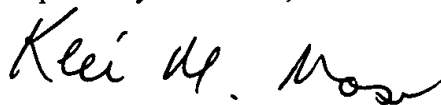
Dependent claims 8-11 and 18-20 were rejected under 35 U.S.C. §102(a) as being anticipated by Gupta, claims 2, 4, 5 and 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Pistriotto et al. in view of Gampper et al., claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Pistriotto et al. in view of Smith et al., and claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gupta in view of Smith et al.

Claims 2-6, 8-12, 14-16 and 18-20 are dependent on claims 1, 7, 13, and 17, respectively, and are therefore patentably distinguished over Gupta, Pistriotto et al., Gampper et al., and Smith et al. (alone or in any combination) because of their dependency from independent claims 1, 7, 13, and 17 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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